
Doing the Right Work

One critical aspect of leadership that was not evident from our meta-analysis or factor analysis was the type of work a school selects as its focus. Each year, every school in the United States formally or informally identifies something it will work on to maintain or (ideally) to improve student achievement. Many of these decisions become evident as school improvement plans. Harvard scholar Richard Elmore contends that the selection a school makes within these improvement plans is a critical factor in the school's ability to improve student achievement. Specifically, in a study commissioned by the National Governors Association, Elmore (2003) concluded that

knowing the right thing to do is the central problem of school improvement. Holding schools accountable for their performance depends on having people in schools with the knowledge, skill, and judgment to make the improvements that will increase student performance (p. 9)

Elmore points out that the school reform effort in the United States is plagued by falsehoods, one of which is that schools fail because teachers and administrators don't work hard enough: "These falsehoods include believing that schools fail because the people in them—administrators, teachers, and students—don't work hard enough and that they are lazy, unmotivated, and self-serving" (p. 9). For Elmore, the downfall of low-performing schools is not their lack of effort and motivation; rather, it is poor decisions regarding what to work on. So the problem in low-performing schools is not getting people to work, it is getting people to do the "right work."

What, then, are the various types of work a school might engage in, and which work is the right work? In this chapter, we consider two general approaches to this

issue: (1) using a Comprehensive School Reform (CSR) model and (2) designing a site-specific approach

Using a CSR Model

One approach to selecting the right work is to adopt a Comprehensive School Reform model. Specifically, the Comprehensive School Reform Program is a federally funded initiative that provides grants to schools that adopt proven comprehensive reform models (see Borman, Hewes, Overman, & Brown, 2003). The purpose of this effort is to provide research-based approaches to enhancing student achievement, particularly in low-performing schools. The U.S. Department of Education (2002) defines a Comprehensive School Reform model in terms of a wide array of features. For example, such a model is one that

- Has been found through scientifically based research to significantly improve the academic achievement of students
- Provides high-quality professional development
- Provides for meaningful involvement of parents and community
- Employs proven methods for student learning, teaching, and school management

A number of CSR models have been reviewed (see Herman et al., 1999; Northwest Regional Educational Laboratory, 2000). Among the more popular and well-researched ones are Direct Instruction, the School Development Program, and Success for All.

Direct Instruction was developed by Siegfried Engelmann and is available through the National Institute of Direct Instruction in Eugene, Oregon. Designed to be used in grades K through 6, its primary goal is to improve students' academic achievement in reading, language arts, and mathematics to such an extent that students are functioning above grade level by the end of 5th grade. It involves highly interactive lessons, use of small groups organized by performance levels, and frequent monitoring of student progress. Direct Instruction is meant to be used in the regular classroom as opposed to a pull-out program.

The School Development Program was designed by James Comer and is available from the School Development Program in New Haven, Connecticut. Its goal is to mobilize the community of adults to support student success. Designed to be used in grades K through 12, the School Development Program employs three teams: a school planning team, a student and staff support team, and a parent team. The teams have a common focus around three operations: design of a comprehensive school plan, effective staff development, and monitoring and assessing student

progress. Finally, all three teams adhere to three principles: no-fault discussions, consensus decisions, and collaboration.

Success for All was developed by Robert Slavin and Nancy Madden and is available through the Success for All Foundation in Baltimore, Maryland. Developed for grades K through 8, the primary goal of Success for All is to ensure that every student learns to read effectively. It involves the use of cooperative learning and one-to-one tutoring, which are bolstered by a family support team and an on-site facilitator and building advisor.

The comprehensive meta-analysis by Borman, Hewes, Overman, and Brown (2003) reviews 29 CSR models including Direct Instruction, the School Development Program, and Success for All. It is probably accurate to say that the conventional wisdom regarding these programs is that they all have proven track records in their ability to enhance student achievement. Indeed, the first criterion in the list from the Department of Education is that the program has been found to improve student achievement through scientifically based research. However, the comprehensive meta-analysis by Borman and his colleagues provides an interesting perspective on the research supporting these CSR models.

Their meta-analysis suggests at least three generalizations about the CSR models that are relevant to the discussion in this book. First, among the 29 CSR models reviewed by Borman and his colleagues, costs to a school vary greatly. First-year (start-up) personnel costs range from a low of \$0 to a high of \$208,361. Median first-year personnel costs are \$13,023. First-year nonpersonnel costs range from \$14,585 to \$780,000, with a median cost of \$72,926. In short, adopting a CSR model can be a fairly expensive proposition. If a school selects one of the more expensive models, it would be well advised to carefully examine the model's chances of enhancing student achievement in that particular school.

Second, the extent to which the 29 CSR models have research supporting their effectiveness varies considerably. For example, one CSR model had studies involving 182 schools, whereas another model had a study involving 1 school. Additionally, the effect of the CSR models on student achievement varies considerably. To illustrate, consider Figure 6.1.

The percentages reported in Figure 6.1 are based on 1,111 standardized mean difference effect sizes reported in the meta-analysis by Borman and his colleagues. Standardized mean difference effect sizes (henceforth referred to as standardized mean differences) are explained in Technical Note 13 (p. 168). Briefly, a standardized mean difference tells you how many standard deviations the average score in the group of students who used the CSR model is above or below the average score

FIGURE 6.1
Distribution of Effect Sizes for Comprehensive
School Reform Models

Effect Size Interval	Percent	Cumulative Percent
-2.00 to -2.13	27	27
-1.00 to -1.99	1.50	1.77
-.01 to -.99	33.12	34.89
.00 to .99	54.91	89.80
1.00 to 1.99	4.23	94.03
2.00 to 2.99	1.10	95.13
3.00 to 3.99	1.00	96.13
4.00 to 4.99	1.10	97.23
5.00 to 5.99	1.10	98.33
6.00 to 6.99	1.00	99.33
7.00 to 7.83	1.00	100.33

of the group of students who did not use the CSR model. The standardized mean differences reported in Figure 6.1 range from -2.13 to +7.83. This indicates a rather large discrepancy in the findings from the studies on the 29 CSR models. The low standardized mean difference of -2.13 indicates a large *negative* effect for the CSR model involved. Specifically, it indicates that the average achievement for students in the experimental group—the school employing the CSR model—was 2.13 standard deviations less than the average achievement of the school not using the CSR approach. In other words, the average achievement score for

the CSR school in this study was at the 2nd percentile of the non-CSR school. Taking this large negative effect size at face value, one might conclude that a typical student in the CSR school would lose a great deal of ground to the typical student in the non-CSR school.

The high standardized mean difference of 7.83 reported in Figure 6.1 indicates a large *positive* effect for the CSR model involved. Specifically, it indicates that the average achievement score of the school employing the CSR model was 7.83 standard deviations higher than the average score of students in the control group—that is, the average student in the CSR group was above the 99.9999999th percentile of the control group.

CSR models, then, appear to have a highly uneven effect on student achievement. Some studies indicate that a given CSR model produces extremely large positive effects on student achievement; others indicate that a given CSR model produces negative effects. In fact, 34.89 percent of the 1,111 effect sizes in the meta-analysis by Borman and his colleagues were below zero, indicating that in

about 35 percent of the studies reviewed in that meta-analysis, the group that did not use a given CSR model outperformed the group that did.

Third, CSR models have a perplexing pattern of effects over time. Borman and his colleagues explain the long-term effects of CSR models in the following way:

After the 5th year of implementation, CSR effects begin to increase substantially. Schools that had implemented CSR models for 5 years showed achievements that were nearly twice those found for CSR schools in general, and after 7 years of implementation, the effects were more than two and [one] half times the magnitude of overall CSR impact of $d = .15$ [i.e., the standardized mean difference is .15]. The small number of schools that had outcome data after 8 to 14 years of CSR model implementation achieved effects that were three and a third times larger than the overall CSR effect (p. 153).

From these comments, we might conclude that if a school can simply stick with a CSR model for five years, then it can expect dramatic achievement gains. However, a careful analysis of the findings provides another interpretation. The average effect size for first-year implementation of CSR models is .17. Standardized mean differences for years two, three, and four are .14, .15, and .13, respectively. This indicates that the effects of CSR models stay basically the same or decrease slightly over the first four years. In the fifth year, the standardized mean difference increases rather dramatically to .25. Finally, the effect size increases to an impressive high of .50 after the 8th to 14th year.

One obvious interpretation of this pattern of effect sizes is that schools must persist in their efforts with any given CSR model, expecting moderate gains for the first four years, followed by rather dramatic gains. However, one finding from the meta-analysis by Borman and his colleagues implies a different interpretation. Specifically, they analyzed a number of factors that had a relationship with the magnitude of the effect size—whether the standardized mean difference for a given study was large or small. One characteristic they identified was the extent to which the CSR model provided ongoing staff development to facilitate implementation. They found that the more staff development support for a given CSR model, the lower the effect size associated with the model (See Technical Note 14 on p. 169 for a more detailed discussion of this finding.) This appears to directly contradict the interpretation that long-term adherence to a CSR model will pay off if a school simply perseveres long enough. If this were the case, one would expect that staff development would enhance the effect of a CSR model. Borman and his coauthors do not discuss this anomaly. However, one interpretation is that CSR models are most effective when they are adapted. That is, only when schools adapt a CSR model to their specific situation does it positively affect student achievement. This

interpretation is supported by a separate study of the impact of CSR programs on schools with diverse populations.

Datnow, Borman, Stringfield, Overman, and Costellano (2003) conducted a four-year study of CSR implementation in 13 culturally and linguistically diverse elementary schools. One of the more interesting findings is that a majority of the schools in the study abandoned the CSR model they were attempting to implement:

In summary, at the end of our four-year study, five of the thirteen schools were still continuing to implement their reform designs with moderate to high levels of intensity. Reforms expired in six of thirteen schools we studied; two other schools were still formally associated with their reform but at very low levels. (p. 153)

This does not bode well for school leaders who might rigidly employ a CSR model as the "right work" in their school. The implication is that CSR models must be adapted if they are to be sustained. Of the five schools in the Datnow study that persisted with CSR implementations, all relied heavily on site-specific adaptations.

Although the Datnow study dealt exclusively with schools that had culturally and linguistically diverse populations, the research and theory on school change strongly support the importance of adaptations. Specifically, the work of Hall, Hord, and Loucks (Hall & Hord, 1987; Hall & Loucks, 1978; Hall, Loucks, Rutherford, & Newlove, 1975; Hord, Rutherford, Huling-Austin, & Hall, 1987) demonstrates that schools must alter the specifics of an innovation to meet the unique needs of their students and community. Indeed, for Hall, Hord, and Loucks, the highest level of implementation of an innovation is defined by adaptation.

In summary, many fine CSR models have been developed. Certainly a school looking for the right work should consider these models. However, rigid adoption of a CSR model does not appear to be a fail-safe method of improving student achievement.

Designing a Site-Specific Approach

The second approach to identifying the right work to undertake in a school is to design a site-specific intervention—to create or identify an intervention that addresses the specific needs of the school. The logic behind this option is that every school is different in some way. Consequently, no predesigned comprehensive school reform program will address the unique characteristics of a given school.

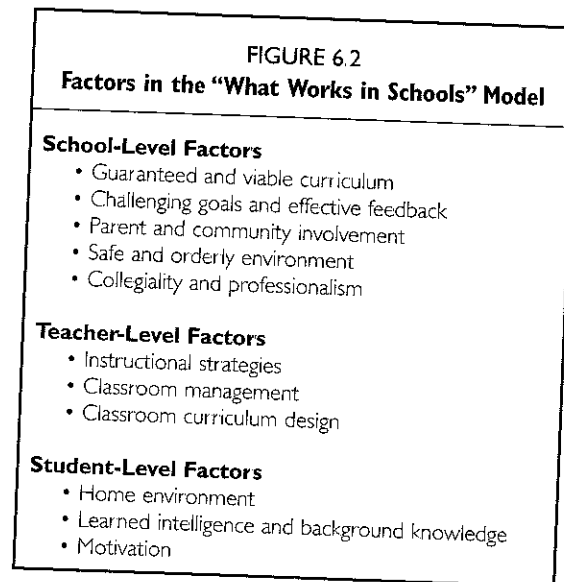
To design a site-specific intervention, a school must begin with a model or framework of those factors that can be altered in a school to enhance student achievement. A number of such models have been developed for this purpose,

including those by Levine and Lezotte (1990), and Sammons (1999). The model that we use in this chapter was developed by Marzano (2003) and is described in *What Works in Schools: Translating Research into Action*. That model postulates 11 factors that might be the focus of school reform. These factors are listed in Figure 6.2.

Note that these factors are organized into three broad categories—school-level factors, teacher-level factors, and student-level factors. The school-level factors are those that are typically a function of school policy, such as safety and order. In other words, they represent issues that individual teachers cannot address comprehensively. Rather, these issues typically involve schoolwide initiatives or operating procedures.

The teacher-level factors involve issues that individual teachers can address effectively, such as instructional strategies and classroom management. Finally, the student-level factors involve issues such as home atmosphere that are typically not addressed by schools but can be if a school is willing to implement specific types of schoolwide programs.

Before we consider each of these factors in depth, it is important to explain that the factors are limited to those that can be substantively changed without access to extraordinary financial resources. That is, each of the 11 factors represents an area of change that is actually doable. We



Source: *What Works in Schools: Translating Research into Action* by Robert J. Marzano, 2003, p. 10. Copyright © 2003 ASCD.

should also note that by definition some powerful interventions have been excluded from the list, such as increasing the number of days in the school year and providing a tutor for every student who is experiencing difficulty in school. These interventions would surely have powerful effects on student achievement, but they are probably beyond the resources currently available to most schools. The factors in Figure 6.2 might be considered a pragmatic set because they can be addressed immediately, without access to extraordinary resources. Each of these factors has specific, defining features and action steps that might be identified as the right work in a given school.

Factor 1: Guaranteed and Viable Curriculum

As the title indicates, this factor addresses two interrelated aspects of the curriculum in a school—the extent to which the curriculum is *guaranteed* and the extent to which it is *viable*. Although viability is mentioned second in this factor, we consider this aspect of the curriculum first, because it is a necessary condition for a curriculum to be guaranteed.

Viability refers to whether the stated curriculum can be adequately taught in the instructional time available to teachers. Although this issue might sound like a nonsequitur, it is one of the most troublesome currently facing K–12 schools. Specifically, 49 of 50 states (with Iowa being the lone exception) have standards documents representing what students should know and be able to do in selected subject areas. Typically these subject areas are mathematics, language arts, science, social studies (which include history, civics, and geography), health and physical education, and the arts. Although the standards movement is well intended and many state standards documents are well written, the standards movement has created what some call a crisis of coverage. Simply stated, state standards documents usually identify far more content than teachers can adequately teach in the instructional time available.

To illustrate, in a study of the amount of time it would take to teach the content currently found in national and state-level standards documents, Marzano, Kendall, and Gaddy (1999) concluded that teaching the content in those documents would require 71 percent more instructional time than is now available. More pointedly, if schools were to teach all of the content as stated in those documents without adding days to the school year, they would have to extend schooling by about 10 years. To be viable, then, a curriculum must fit within the parameters of available instructional time, and this obviously requires substantial trimming of the content.

Once a curriculum is trimmed to the point where it is viable, it can be *guaranteed*. This means that a school imposes the constraint that classroom teachers must address specific content in specific courses at specific grade levels. The casual observer of K–12 education might assume that schools and districts already impose such constraints, but this is not the case. To illustrate, in discussing how teachers approach textbooks, Stevenson and Stigler (1992) note that even when all teachers in a school or a district use the same textbook series, different teachers omit different topics. Consequently, a school or district has no way of knowing what students have been taught. Hirsch (1996) addresses the same phenomenon, noting that “the idea that there exists a coherent plan for teaching content within the local district, or even within the individual school, is a gravely misleading myth” (p. 26).

Given the lack of a guaranteed and viable curriculum in many schools and districts, a school might identify one or more of the following action steps as the right work:

- Identify and communicate the content considered essential for all students versus that considered supplemental
- Ensure that the essential content can be addressed in the amount of time available for instruction
- Ensure that teachers address the essential content
- Protect the instructional time available to teachers.

Factor 2: Challenging Goals and Effective Feedback

One of the strongest generalizations from the research literature is that feedback is a robust instructional activity that can be used in a variety of situations. In fact, in a review of almost 8,000 studies, Hattie (1992) concluded that feedback is the single most powerful educational tool available to educators. Marzano (2000b, 2003) has noted that the best way to provide the type of feedback suggested by the research is to use report cards like the one shown in Figure 6.3

Note that the top section of the report card in Figure 6.3 looks quite traditional in its presentation of overall grades. Obviously, overall grades do not provide the level of feedback that Hattie alludes to. However, the bottom section of the report card does provide that level of feedback because it reports scores for specific topics in each subject area. The example in Figure 6.3 uses a 100-point scale. Marzano (2000b) illustrates how a report card based on a 4-point scale might be used. Whether a 100-point scale, a 4-point scale, or some other scale is used, the central feature of a report card like that shown in Figure 6.3 is that each student receives feedback on specific aspects of knowledge and skill every grading period (for example, every nine weeks). Scores for these grading periods can be reported in a transcript that also keeps track of student achievement at the topic level. (For a complete discussion, see Marzano 2000b, 2003.)

It is important to note that a report card like that depicted in Figure 6.3 is possible only if teachers are asked to keep track of relatively few topics per grading period and they are provided with computer software that performs the routine but laborious tasks of archiving data, computing averages, combining scores across topics, and the like. Currently, computer software is available that allows teachers to keep track of assessment data on specific areas of knowledge and skill on a day-to-day basis; allows for the aggregation of information gathered by teachers into report cards like that in Figure 6.3; and allows for the aggregation of information from report cards into transcripts.

FIGURE 6.3
Sample Standards-Based Report Card

Student: Cecelia Haystead
Grade: 8
Homeroom: Ms. Becker

Mathematics:	79.7	C
Science:	79.4	C
Language Arts:	93.8	A
History/Geography:	82.9	C
Art:	97.7	A
Civics:	85.4	B

Participation	90.8	B
Assignments	87.6	B
Working in groups	78.2	C
Following rules	87.1	B

Mathematics		
Central tendency & variability	76.5	
Charts & graphs	87.2	
Data collection & samples	78.2	
Functions	68.3	
Problem-solving strategies	88.2	
Participation	94.2	
Assignments	82.1	
Working in groups	70.5	
Following rules	78.4	
Science		
Motion of Earth/moon	71.0	
Energy in Earth's system	82.3	
The solar system	79.1	
The universe	83.9	
Seasons/weather/climate	80.7	
Participation	90.2	
Assignments	84.7	
Working in groups	71.5	
Following rules	82.4	

(continued)

FIGURE 6.3 (continued)
Sample Standards-Based Report Card

Language Arts		
Writing:		
The writing process	94.7	
Organization & development	95.0	
Diction	89.9	
Style	95.2	
Reading:		
Reading comprehension	92.6	
Critical reading	95.8	
Understanding genre	93.8	
Participation	97.1	
Assignments	94.7	
Working in groups	87.2	
Following rules	92.9	
History/Geography		
Colonies & colonialism	88.3	
Empires & imperialism	77.9	
Causes & consequences of slavery	79.5	
Adaptation to the environment	83.4	
Types of regions	84.9	
Participation	77.4	
Assignments	75.1	
Working in groups	69.8	
Following rules	88.1	
Art		
Purposes of art	98.5	
Art skills	97.7	
Art & culture	96.9	
Participation	92.4	
Assignments	99.3	
Working in groups	89.2	
Following rules	96.0	
Civics		
Human & civil rights	85.3	
Government representation	81.6	
Personal responsibility	89.4	
Participation	90.5	
Assignments	89.7	
Working in groups	81.2	
Following rules	84.8	

Source: *What Works in Schools: Translating Research into Action* by Robert J. Marzano 2003 pp. 41-42
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With the implementation of a guaranteed and viable curriculum (Factor 1) and the support of technology for the record-keeping conventions important to this second factor, a school can identify challenging goals for the school as a whole as well as for individual students, and then provide the systematic, specific feedback that will generate the learning alluded to by Hattie (1992). Consequently, a school might select one or more of the following action steps as the right work:

- Implement an assessment and record-keeping system that provides timely feedback on specific areas of knowledge and skills for specific students.
- Establish and monitor specific, challenging achievement goals for the school as a whole
- Establish and monitor specific, challenging achievement goals for each student.

Factor 3: Parent and Community Involvement

This factor deals with the support of and involvement in the school by parents and community. It involves at least three related elements: communication, participation, and governance.

Communication refers to the extent to which a school has developed good lines of communication both *to* and *from* parents and community. Vehicles for such communication typically include newsletters, phone calls, home visits, and parent-teacher conferences. Additionally, the use of e-mail and chat rooms via the Internet has greatly expanded capabilities for effective two-way communication.

Participation refers to the extent to which parents and community are involved in the day-to-day running of the school. Involvement in the school might be evident as parent and community volunteers perform functions such as classroom aides; hallway, lunchroom, and playground monitors; office clerical assistants; and guest lecturers and presenters.

Governance refers to the extent to which the school has established structures that allow for parents and community to be involved in decision making relative to school policy. Tangri and Moles (1987) explain the rationale for parent and community involvement in school governance in the following way: "The concept of parent [and community] participation in educational decision making is closely linked to democratic ideals of citizen participation in the affairs of government" (p. 520). Typically, vehicles for involvement by parents and community in school governance involve the creation of formal teams like the parent team within Comer's School Development Program (Comer, 1984, 1988) and site-based management teams.

Relative to this factor, a school might select one or more of the following action steps as the right work:

- Establish vehicles for communication between schools and parents and the community
- Establish multiple ways for parents and community to be involved in the day-to-day running of the school
- Establish governance vehicles that allow for the involvement of parents and community members

Factor 4: Safe and Orderly Environment

A school that has a safe and orderly environment is one in which students and teachers alike *are* safe and *perceive* that they are safe from both physical and psychological harm. Safety and order as described here has been recognized by many as a necessary condition for effective schooling (Chubb & Moe, 1990; Mayer, Mullens, Moore, & Ralph, 2000). Indeed, national goals have even been established regarding this factor. For example, in 1994 the Goals 2000: Educate America Act (National Education Goals Panel, 1994) stated that by the year 2000, every school "will offer a disciplined environment conducive to learning" (p. 13). To address this factor, a school must implement rules and procedures at the school level and involve students in their design and implementation.

To address this factor, a school might select one or more of the following action steps as the right work:

- Establish rules and procedures for behavioral problems that might be caused by the school's physical characteristics or the school's routines
- Establish schoolwide rules and procedures for general behavior
- Establish and enforce appropriate consequences for violations of rules and procedures
- Establish a program that teaches self-discipline and responsibility to students
- Establish a system that allows for the early detection of students who have high potential for violence and extreme behaviors

Factor 5: Collegiality and Professionalism

Collegiality and professionalism refer to the manner in which the staff members in a school interact and the extent to which they approach their duties as professionals. This factor is related to what researchers in the 1970s referred to as "school climate" (Brookover & Lezotte, 1979; Brookover et al., 1978). Brookover and colleagues (1978) attested to the importance of this factor, noting, "We believe that the

differences in school climate explain much of the difference in academic achievement between schools that is normally attributed to composition" (p. 303). It should be noted that Brookover's concept of climate was quite broad in scope. What is referred to here as collegiality and professionalism is closer to what Deal and Kennedy (1983) refer to as "organizational climate":

The organizational climate in a school has been defined as the collective personality of a school based upon an atmosphere distinguished by the social and professional interactions of the individuals in the school (p. 14)

In operation, collegiality and professionalism are a function of implicit or explicit norms of behavior among staff members. These norms serve to create relationships that are professional in nature while also being cordial and friendly. This factor also includes structures that allow teachers to be an integral aspect of the important decisions in a school. Finally, this factor involves professional development that is focused, skill-oriented, and cohesive from session to session and year to year.

Three action steps are associated with this factor:

- Establish norms of conduct and behavior that engender collegiality and cooperation
- Establish governance structures that allow for teacher involvement in decisions and policies for the school
- Provide teachers with meaningful staff development activities

Factor 6: Instructional Strategies

Figure 6.2, p. 82, identifies the first five factors as school-level factors. As indicated by their associated action steps, they involve schoolwide interventions. This sixth factor—instructional strategies—and the next two (classroom management and classroom curriculum design) address aspects of day-to-day classroom life.

One of the more obvious characteristics of effective teachers is that they have at their disposal a wide array of instructional strategies. Various researchers have promoted lists of allegedly effective instructional strategies. For example, eight categories of general instructional strategies have been identified based on the review of research jointly reported by Fraser, Walberg, Welch, and Hattie (1987) and Hattie (1992). Based on the research by Marzano (Marzano, 1998; Marzano, Gaddy, & Dean, 2000; Marzano, Pickering, & Pollock, 2001), the following nine categories of instructional strategies have been promoted:

- Identifying similarities and differences
- Summarizing and note taking
- Reinforcing effort and providing recognition

- Homework and practice
- Nonlinguistic representations
- Cooperative learning
- Setting objectives and providing feedback
- Generating and testing hypotheses
- Cues, questions, and advance organizers

Regardless of the specific list that is used, strategies should be organized into some type of framework for instructional design. Hunter (1984) proposed a design for individual lessons. More recently, Marzano (2003) has proposed a design for planning units. It involves the four categories depicted in Figure 6.4.

The first category includes those instructional strategies that deal with monitoring progress, balancing individual work with group work, reinforcing effort, and celebrating success. These activities are typically employed regularly and systematically throughout a unit. The second category includes those strategies that deal with assessing final goal attainment and celebrating success at the end of the unit. They provide a strong finish for a unit. The third category involves strategies that help students understand and assimilate new information that is presented to them. The final category includes instructional strategies that help students review, practice, and apply content.

One action step is associated with this factor, although as the framework in Figure 6.4 illustrates, it is multidimensional, involving a wide array of instructional strategies:

- Provide teachers with an instructional framework for planning units that employs research-based strategies

Factor 7: Classroom Management

One can argue that classroom management is the foundation of effective teaching. In fact, in a major review of the research literature, Wang, Haertel, and Walberg (1993) identified classroom management as the factor that has the greatest impact on student achievement out of a list of 228 variables. This makes intuitive sense—a classroom that is chaotic as a result of poor management not only doesn't enhance achievement, it might even inhibit it.

Marzano, Marzano, and Pickering (2003) identify five aspects of effective classroom management. The first is the design and implementation of classroom rules and procedures. The second is the design and implementation of appropriate consequences for violations of rules and procedures. The third element addresses the relationship between teacher and students. More specifically, to

FIGURE 6.4
Categories for Instructional Strategies

Category I—Monitoring progress, balancing individual work with group work, reinforcing effort, and celebrating success:

- Having students work individually
- Having students work in cooperative groups
- Having students work in groups based on their knowledge and skill in specific topics
- Giving students periodic feedback on learning goals
- Asking students to keep track of their progress on the learning goals
- Periodically celebrating legitimate progress toward learning goals
- Pointing out and reinforcing examples of effort

Category II—Assessing final goal attainment and celebrating success at the end:

- Providing students with clear evaluations of their progress on each learning goal
- Having students evaluate themselves on learning goals and compare their evaluations with the teacher's
- Recognizing and celebrating the accomplishment of specific goals for specific students

Category III—Helping students understand and assimilate new information that is presented to them:

- Asking questions that help students identify what they already know about the content
- Providing students with direct links between new content and old content
- Providing students with ways of organizing the new content or thinking about the new content
- Asking students to take notes on the content
- Asking students to construct verbal and written summaries of the content
- Asking students to represent new content as pictures, pictographs, symbols, graphic representations, physical models or dramatic enactments
- Asking students to create mental images for new content

Category IV—Helping students review, practice, and apply content:

- Asking students to revise their notes, correcting errors and adding detail
- Asking students to revise their pictures, pictographs, symbols, graphic representations, and physical models, correcting errors and adding detail
- Asking students to revise their mental images, correcting errors and adding detail
- Assigning homework and in-class activities that require students to practice skills and processes
- Assigning homework and in-class activities that require students to compare content, classify content, create metaphors with content, and create analogies with content
- Engaging students in projects that require them to generate and test hypotheses through problem-solving tasks, decision-making tasks, investigation tasks, inquiry tasks, systems analysis tasks, and invention tasks

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establish an optimal relationship with students, a teacher must exhibit two types of behaviors: (1) those that communicate appropriate levels of dominance (that is, those that signal that the teacher is in charge and can be trusted to provide behavioral and academic guidance) and (2) those that communicate appropriate levels of cooperation (that is, those that signal to students that the teacher is concerned about the individual needs of students and is willing to have the class function as a team). The fourth aspect of effective classroom management involves the teacher's use of strategies that heighten his awareness of all activities in the classroom, with particular emphasis on identifying and thwarting any potential problems. The final aspect of effective classroom management addresses the extent to which the teacher maintains a healthy emotional objectivity regarding management issues.

Consequently, if classroom management is its focus, a school might identify one or more of the following action steps as the right work:

- Have teachers articulate and enforce a comprehensive set of classroom rules and procedures
- Have teachers use specific strategies that reinforce appropriate behavior and recognize and provide consequences for inappropriate behavior.
- Institute a schoolwide approach to discipline
- Help teachers develop a balance of moderate dominance and moderate cooperation in their dealings with students
- Provide teachers with an awareness of the needs of different types of students and ways of alleviating those needs
- Have teachers employ specific strategies to maintain or heighten their awareness regarding the actions of students in their classes
- Have teachers employ specific strategies that help them maintain a healthy emotional objectivity with their students.

Factor 8: Classroom Curriculum Design

Classroom curriculum design refers to those decisions teachers make to adapt the content found in textbooks, state standards documents, and district curriculum guides to the needs of their particular students. Such decisions are needed because students from school to school and even from classroom to classroom within a single school might vary greatly in their background knowledge and readiness for the topics being taught. Consequently, classroom teachers must adapt the activities and content in the textbooks, standards documents, and curriculum guides assigned to them.

When executing their adaptations, one of the first things teachers must do is to decide which information and skills are to be the focus of a given topic specified in their textbook, standards document, or curriculum guide. To illustrate, based on one or more of these documents, a 4th grade teacher might have to address the topic of fractions. However, many aspects of this topic could provide the focus of instruction, such as the relationship between fractions and decimals or the nature and comparative characteristics of common fractions such as one-half, one-fourth, and one-fifth. Additionally, important skills within the general topic of fractions include converting fractions to decimals and adding fractions with different denominators. To determine which information and skills should be the focus of instruction for specific students, a teacher must consider what those students already know about the topic. Obviously, these decisions cannot be made by textbooks or by those who design standards or curriculums. Such decisions must be made on a class-by-class, even student-by-student, basis.

Another classroom curricular decision a teacher must make is to identify activities to use to ensure that students are exposed to new content multiple times in a variety of ways. This is necessary because to fully understand and integrate new knowledge, students must have opportunities to process information in a variety of ways from a variety of perspectives. Additionally, these opportunities must be presented multiple times with a well-thought-out progression of difficulty.

A third curricular decision a teacher must make is to identify which skills are to be mastered by students and which skills are to be only introduced. Skills are types of procedural knowledge. To be useful, procedural knowledge must be learned until it becomes automatic—that is, an individual can execute the skill or process fluently with little or no conscious thought. Unfortunately, this level of learning requires a great deal of extended practice, so much so that it would be impossible for a teacher to adequately address all procedures found in textbooks, standards documents, or curriculum guides. Consequently, a teacher may introduce many skills within a given semester but teach only a few to the requisite level of automaticity. (For a discussion, see Marzano, Kendall, & Gaddy, 1999.) Again, teachers must use their knowledge of the background and readiness of the students in their class to make such determinations.

A fourth curricular decision a teacher must make is how to present the information within a topic or how to present a set of topics in a way that highlights their similarities. Highlighting similarities between topics is at the heart of knowledge transfer. Again, such links cannot be forged without knowing the background of individual students. An organizational scheme that would provide

obvious connections between topics for one group of students might not provide such links for another group of students

The final curricular decision a teacher must make is how to provide students with complex tasks that require them to apply their new knowledge in ways that expand their original understanding of the knowledge. Such tasks include making decisions based on new knowledge, solving problems based on new knowledge, and testing hypotheses based on new knowledge.

With this factor in mind, a school might select one or more of the following action steps as the right work:

- Have teachers identify the important information and skills in the topics they are required to address
- Have teachers present new content multiple times using a variety of activities
- Have teachers distinguish between those skills and processes that they will teach to a level of mastery and those that they will only introduce
- Have teachers present content in groups or categories that demonstrate the critical features of the content.
- Have teachers engage students in complex tasks that require addressing content in multiple ways

Factor 9: Home Environment

The last three factors in Figure 6.2 (p. 82) are labeled "student-level factors." They represent characteristics that are part of the general background students bring with them to school each day. In past decades, many people assumed that these student background factors were beyond the reach of schools. The three listed in Figure 6.2 are anything but that. Although they are the products of environmental influences outside the school, each can be significantly affected by focused schoolwide efforts.

The first of these three student-level factors is home environment. As the name indicates, this deals with the extent to which the environment in the home supports academic success. One of the more compelling research findings relative to this factor is that home environment can be orchestrated to positively affect student academic achievement regardless of the income, occupation, or education level of the parents or guardians in the home (White, 1982).

At least three aspects of home environment determine whether it supports academic achievement. The first is the extent to which parents and guardians communicate to their children about school and how they do so. Parents and guardians who communicate effectively have frequent and systematic discussions

with children regarding school, encourage their children regarding school, and provide resources to help them with their schoolwork

The second element characteristic of a supportive home environment is supervision. This involves the extent to which parents and guardians monitor their children's activities, such as time spent doing homework, when their children return home from school, what they do after school, how much they watch television, and what type of programs they watch.

The third characteristic of this factor is parenting style. Of the three general parenting styles—authoritative, authoritarian, and permissive—the authoritative style has the strongest positive relationship with student academic achievement, followed by the authoritarian style. The permissive style does little to support academic achievement.

One action step is associated with this factor:

- Provide training and support to parents to enhance their communication with their children about school, their supervision of their children, and their ability to communicate expectations to their children within the context of an effective parenting style.

Factor 10: Learned Intelligence and Background Knowledge

This factor, learned intelligence and background knowledge, gets its name from the fact that one of the strongest predictors (if not the strongest predictor) of academic achievement is the background knowledge students have regarding the content being taught (Bloom, 1976; Dochy, Segers, & Buehl, 1999). Interestingly, background knowledge—particularly academic background knowledge—is akin to what psychologists refer to as crystallized intelligence, or the type of intelligence that is learned as opposed to innate.

Techniques for enhancing academic background knowledge can be organized into two basic categories: direct approaches and indirect approaches. Direct approaches are those that involve students in out-of-school activities that are academically oriented. These experiences include field trips to historical sites, cultural events, plays, museums, and so on. Direct experiences also include involving students in mentoring relationships that pair an adult with the means to provide students with a wide variety of out-of-school academic experiences and a student who wishes to be involved in such a relationship. Ideally, the adult in the pair possesses the same background as the student and is of the same ethnicity.

Indirect experiences are those that generate "virtual" experiences that enhance students' academic background knowledge. Two types of indirect experiences that fit well into the current culture of K-12 education are wide reading and direct

vocabulary instruction in terms that are important to the academic subjects students encounter in school

The following action steps associated with this factor might be selected by a school as the right work:

- Involve students in programs that directly increase the number and quality of life experiences they have
- Involve students in a program of wide reading that emphasizes vocabulary development
- Provide direct instruction in vocabulary terms and phrases that are important to specific subject matter content

Factor 11: Motivation

The final student-level factor is motivation. It refers to the extent to which students are motivated to be engaged in academic tasks from both external and internal sources. Drive theory, attribute theory, and self-worth theory provide some guidance regarding ways to motivate students via external sources (see Covington, 1992). One technique is to provide students with feedback regarding their knowledge gain. When students perceive that they have progressed in the acquisition of knowledge or skill, they tend to increase their level of effort and engagement regardless of their relative standing compared with other students. Another external approach to motivation is to involve students in gamelike tasks that focus on academic content, because games and gamelike activities are inherently interesting. If academic content is embedded in a game or gamelike activity, students tend to be engaged in the task and consequently learn the embedded content even if they are not interested in the content *per se*.

Self-system theory (see Csikszentmihalyi, 1990; Harter, 1999; Markus & Ruvolo, 1990) provides guidance as to techniques for enhancing or capitalizing on students' internal motivation. One approach is to involve students in long-term projects of their own design (see Marzano, Paynter, & Doty, 2004). However, to truly tap into sources of internal motivation, students must have the freedom to select the topics and specific goals of their projects, and have the necessary time and resources to complete them. This implies setting aside some specific time during the school week for students to work on such open-ended tasks. The time lost to traditional academic subjects due to these student-directed projects might be made up by the halo effect such projects generate. That is, the energy and engagement created by these tasks might spill over into traditional academic subject areas. A second approach to internal motivation is to provide students with an

understanding of the dynamics of human motivation and consequently their own behavior in and out of school. Such an understanding allows students some measure of control over their own levels of motivation in various situations.

If student motivation is its focus, a school might select one or more of the following action steps as the right work:

- Provide students with feedback on their knowledge gain
- Provide students with tasks and activities that are inherently engaging
- Provide opportunities for students to construct and work on long-term projects of their own design
- Teach students about the dynamics of motivation and how those dynamics affect them

Summary and Conclusions

The school leader's ability to select the right work is a critical aspect of effective leadership. It might be the case that teachers and administrators in a low-performing school are working "hard" but not working "smart" in that they select interventions that have little chance of enhancing student academic achievement. Two categories of possible interventions are comprehensive school reform (CSR) models and site-specific approaches. Whereas CSR models are generally thought to have proven track records in their effect on student achievement, the research indicates that the effect of any given CSR model can vary greatly from site to site. A good rule of thumb is that CSR models should be adapted over time to meet the specific needs of a school. When a site-specific approach is used, a school designs its own intervention based on some theory or model of effective schooling. An 11-factor model, encompassing 39 possible action steps, can help a school identify the focus of its work. Whether a school uses this model or some other model, employing a site-specific approach involves designing an intervention that is specific to the needs and context of a given school.